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REMARKS

Claims 18-20 are pending in the application. Claim 18 has been cancelled by this amendment. Therefore, claims 19 and 20 are at issue.

Claims 18-20 stand rejected under 35 U.S.C. §112, first paragraph, for lack of an adequate description and lack of enablement. The rejection is based on structural formula in claims 18 and 19 being different from the structural formula in the specification. In view of the amendment to claim 19, it is submitted that the rejection of claims 19 and 20 under 35 U.S.C. §112, first paragraph, has been overcome.

In particular, the structural formula in claim 19 contained a typographical error wherein R^3 of the structure was presented as R^2. Applicant has amended the structural formula in claim 19 to conform to the structure in the specification, and its method of manufacture. Therefore, it is submitted that the rejection of claims 19 and 20 under 35 U.S.C. §112, first paragraph, should be withdrawn.

Claims 18-20 also stand rejected under 35 U.S.C. §101 because the claims are not supported by a specific asserted utility or a well-established utility, and under 35 U.S.C. §112, first paragraph, for failing to teach how to use the claimed invention. Applicants traverse the rejections of claims 19 and 20. The rejection of claim 18 is moot in view of the cancellation of claim 18.

In particular, the specification, including the test data therein, shows that the compounds recited in claim 19 are potent inhibitors of the cGMP-specific phosphodiesterase, i.e., are PDEV inhibitors. Because

the PDEV enzyme is inhibited, cGMP is not degraded. Accordingly, cGMP levels in the body are elevated. Therefore, the disclosed PDEV inhibitors result in an increase of cGMP in the body, and the benefit of increased cGMP in the body to sustain the effects of various factors, peptides, and agents is well known in the art.

With further respect to claims 19 and 20, the effects of an endothelium-derived relaxing factor, a nitrovasodilator, an atrial natriuretic factor, brain natriuretic peptide, a C-type natriuretic peptide, and endothelium-dependent relaxing agent are well known to persons skilled in the art, as are diseases and conditions mediated by such agents, or by a lack or deficiency of such agents in the body. Each of these agents is mediated by cGMP. Thus, if the amount of cGMP in a body is elevated, the effects of these agents also will be elevated because their effects are mediated, directly or indirectly, by a direct correlation to the amount of cGMP in the body. Accordingly, the compounds claimed in claims 19 and 20 do not directly treat a disease, but find utility in increasing cGMP levels in the body which results in enhanced effects, i.e., potentiation, provided by the agents listed above and recited in claims 19 and 20.

Accordingly, it is submitted that claims 19-20 meet the utility guidelines set forth in MPEP §2107 *et seq.* and comply with 35 U.S.C. §112. The claims recite a method of potentiating the effects of various agents in the body. Persons skilled in the art are aware of the benefits of increased cGMP levels in the body, and which conditions or diseases would benefit

from an increase of cGMP levels. Increased cGMP levels result from inhibiting PDEV mediated degradation of cGMP by administration of the claimed compound. Specific diseases benefiting from the increased cGMP level are provided in the specification.

Likewise, persons skilled in the art are aware of the beneficial effects of the agents recited in claims 19 and 20. Skilled persons also are aware of diseases and conditions resulting from a lack of, or insufficient amount of, such agents. The amount of these agents in the body is directly related to the amount of cGMP in the body. The increased amount of cGMP is achieved by administration of a compound recited in claim 19, then the effects of the agents listed in claim 19 are potentiated.

In summary, claims 19 and 20 meet the criteria of 35 U.S.C. §101 because the claimed subject matter is credible, specific, and substantial. As stated in the MPEP §2107.01 at 2100-34:

> "As such, pharmacological or therapeutic inventions that provide *any* 'immediate benefit to the public' satisfy 35 U.S.C. §101." and
>
> "Courts have repeatedly found that the mere *identification* of a pharmacological activity of a compound that is relevant to an asserted pharmacological use provides an 'immediate benefit to the public' and thus satisfies the utility requirement."

In particular, the presently claimed use is credible. The specification contains numerous examples and data showing that the claimed compounds have a

potent inhibiting effect on the cGMP-specific phosphodiesterase PDEV. This inhibitory effect results in increased cGMP levels in an individual, which provides benefits as known to persons skilled in the art.

The claimed subject matter also has a specific utility. Applicants have disclosed a specific biological activity and correlated that activity to a disease condition (MPEP §2107.01, page 2100-32). No additional research is necessary with respect to determining a specific utility.

In particular, by maintaining or increasing cGMP levels in the body, the effects of the agents recited in claims 19 and 20 are potentiated. Persons skilled in the art are aware of the resulting diseases and conditions when these agents are not present in sufficient quantities to perform their desired function. Examples of such diseases and conditions are listed in the specification at page 6, line 30 through page 7, line 3.

Finally, the claimed subject matter has a substantial, real-world utility that does not require further research. Diseases associated with insufficient activity of the agents recited in claims 19 and 20 are known. Thus, potentiating the effects of these agents by administration of a claimed compound has a substantial utility.

In summary, the claims recite a specific, substituted, and credible utility, and it is submitted that the rejection of claims 19 and 20 under 35 U.S.C. §101 and 35 U.S.C. §112, first paragraph, should be withdrawn.

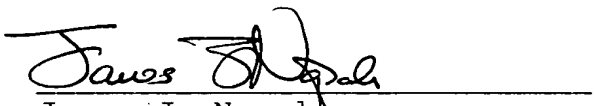
Claims 18-20 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite because of a recitation of R^3, but the lack of an R^3 in the structural formula. In view of the amendment to the structural formula recited in claim 19, it is submitted that this rejection has been overcome and should be withdrawn. The rejection of claim 18 is moot in view of the cancellation of claim 18.

It is submitted that claims 19 and 20 are now in a form for allowance. An early and favorable action on the merits is respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form in an effort to advance this application toward allowance, the examiner is urged to telephone the undersigned at the indicated number.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN LLP

By 

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